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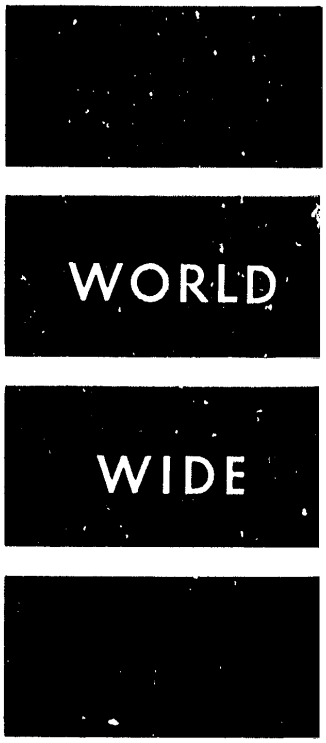


# TRANSLATIONS ON ENVIRONMENTAL QUALITY
(FOUO 6/79)

U. S. JOINT PUBLICATIONS RESEARCH SERVICE

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JAPAN

## POLLUTION RELIEF LAW CHANGES STUDIED

Tokyo THE JAPAN TIMES in English 14 May 79 p 2

[Text] Under strong pressure from business circles, the Environment Agency is moving toward revision of the law concerning special measures for the relief of pollution victims.

The five-year-old law provides for compensation for persons affected by air and water pollution through state outlays and penalties paid by polluters.

Business leaders now are disgruntled over the arrangement which they helped enact into law. They claim that their burden is becoming heavier every year while air and water pollution are on the decrease.

They fear that a point may come in the near future where they will be unable to pay if the penalties continue to increase.

Under the law, recognized victims of respiratory diseases in specifically designated regions are entitled to receive seven kinds of payments, including damages and medical expenses.

Beneficiaries of the system totaled 71,190 in 41 areas as of the end of last January.

Areas where more than 0.05 parts per million of sulfuric oxide concentration on the yearly average has been recorded in the past few years are covered by the law.

The penalties are fixed in proportion to the responsibility of industrial concerns for air pollution, especially discharges of sulfuric oxides, multiplied by unit charges set for respective areas.

Eighty percent of the air pollution in respective areas is attributed to stationery sources like factories, with the remaining percentage blamed on transitory sources like automobiles.

In fiscal 1974, one year after the law took effect, the penalties totaled ¥3.2 billion.

The amount increased five-fold to ¥16 billion in fiscal 1975, and kept soaring to ¥44 billion, to ¥60.9 billion and to ¥73.1 billion the following years. For fiscal 1979, the penalties have been estimated at ¥82.2 billion.

A remarkable rise has been registered in the unit fines — from ¥15.84 per cubic meter of sulfuric oxide concentration in 1974 to a maximum of ¥1,293.70 in fiscal 1979.

There are complaints in industrial circles that the penalties are increasing unreasonably while good results have been recorded in efforts to reduce air pollution.

The complaints, however, don't impress pollution sufferers and their sympathizers.



CSO: 5000

JAPAN

WIDESPREAD ILLEGAL DUMPING OF INDUSTRIAL WASTE FOUND

Tokyo THE DAILY YOMIURI in English 21 May 79 p 2

[Text] Police have reported that an Osaka man serving as chairman of an association charged with reprocessing industrial waste before it is dumped has allowed widespread illegal dumping of unprocessed waste in central and western Japan.

Kunio Wtanabe, 42, of Neyagawa, Osaka-fu, heads the association commissioned by the Corporation for the Prevention of Environmental Pollution to reprocess used bentonite before its dumping and he also serves as representative of a company assigned to oversee the collection and dumping of bentonite.

Watanabe was involved in three previous cases of illegal dumping of industrial waste before being named to his present post.

Besides being responsible for the illegal dumping of industrial waste, Watanabe is suspected of having embezzled money which was earned by the association and which should have been used to repay loans that the association obtained from the corporation.

Bentonite is an absorptive and colloidal clay used especially as a filler (as in paper) or carrier (as of drugs) and it is also employed widely in the construction of buildings.

As chairman of the association Watanabe is supposed to ensure that used bentonite is reprocessed properly before it is dumped. Using his position as representative of the Watanabe Kogyo Company, however, he allowed 15 unlicensed waste collectors to dump unprocessed, used bentonite illegally in sewers, gutters, channels of irrigation water and parks.

Before he became the third chairman of the association, Watanabe was held for questioning by police three times--in February 1973, April 1974, and October 1975--for illegally dumping industrial waste.

Police described Watanabe as a "two-faced man" for allowing the illegal dumping while serving as chairman of the association.

The collectors dumped a total of 5,341 cubic meters of used bentonite in sewers and parks in 12 prefectures in Kansai, Chugoku, Shikoku and Chubu on 1,766 occasions during the past two years, police said.

About half of the illegally dumped bentonite has become solid and some of it is impeding the flow of water in sewers, gutters and channels of irrigation water, police said.

The association headed by Watanabe borrowed about ¥274,800,000 from the Corporation for the Prevention of Environmental Pollution and used the money to build its facilities.



CSO: 5000

USSR

SMOKE POLLUTION OF THE ATMOSPHERE AS OBSERVED FROM SPACE

Leningrad DYMOVYYE ZAGRYAZNENIYA ATMOSFERY PO NABLYUDENIYAM IZ KOSMOSA in Russian 1978 signed to press 13 Mar 78 pp 2, 3-4, 36

[Annotation, table of contents and foreword from book by Aleksey Alekseyevich Grigor'yev and Vadim Borisovich Lipatov, Gidrometeoizdat, 2,000 copies, 36 pages]

[Text] The book examines different aspects of studying atmospheric pollution from natural and industrial fires, as well as from volcanic eruptions by using data from images obtained from artificial meteorological earth satellites, manned spacecrafts, and orbital stations. Analyses are made of the image peculiarities, dispersion, structure and dynamics of these phenomena, and their relationship to the underlying surface and the state of the atmosphere.

Based on a joint analysis of the images, pollution sources, state and transparency of the atmosphere an evaluation is made of the mass of smoke pollution. The main directions are suggested and practical recommendations are made for an investigation of smoke pollution from space.

The book is intended for a broad circle of specialists in the field of atmospheric physics, meteorology, geography, as well as for numerous readers who are interested in questions of environmental protection.

Contents

Foreword

Recently due to the sharp increase in atmospheric pollution especial attention has been directed to the problem of cleanliness of the earth's air basin [2,3]. To control the state of the air basin and combat its pollution, as well as to solve the problems associated with the investigation of the weather and climate of the planet it is necessary to evaluate the contribution of natural and anthropogenic pollution. Definite progress in this field has become possible with the use of the methods of remote, especially space tracing of aerosol pollution [9, 10].

Among the most important advantages of using space images to investigate atmospheric pollution one can note: 1) synchronous or quasisynchronous tracking of the spread of pollution on large areas (all the way to continental scales); 2) study of pollution in regions of difficult access (oceans, deserts); 3) tracking of the dynamics of the phenomena (duration, frequency, intensification or attenuation). Such data are very difficult, and at times impossible to obtain by normal methods of observation (including by aerological methods). Peculiarities of the development and spread of atmospheric pollution depending on the factors that govern them can be explained considerably better from space photographs also because many of these factors are recorded on the photographs.

Analysis of the works of Soviet and foreign specialists covering an investigation of atmospheric smoke pollution from space images has shown that their publications generally deal only with individual aspects of the examined phenomenon. Therefore the authors in this booklet, by using the data of Soviet and foreign researchers proceeded from their experience of studying similar phenomena and attempted to make a broader and interrelated study of different aspects of investigating atmospheric smoke pollution from outer space, including the pecualiarities of their image, dispersion, structure and dynamics, link to the underlying surface, localization of foci, as well as deposits on the underlying surface. For this the authors have analyzed different types of space images of atmospheric smoke pollution obtained from various satellites (meteorological, manned spacecrafts, orbital stations, natural resource satellites LANDSAT-1 and LANDSAT-2). Analyses have been made of images taken from different altitudes, and on different scales and spectral intervals. The space images of atmospheric smoke pollution have been standardized from the photographs and other data, and a quantitative evaluation of smoke pollution has been made.



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FEDERAL REPUBLIC OF GERMANY

HEAVY METAL POISONING OF FRG ENVIRONMENT DISCUSSED

Hamburg STERN in German 29 Mar 79 pp 236-240

[Article by Peter Blechschmidt and Gerhard Tomkowitz: "Environmental Contamination: Time Bomb in the Sewage Treatment Plant"]

[Text] In Bavaria and Badan-Wuerttemberg fields are being fertilized with sewage sludge which is poisoning the crops.

Barren gravel flats in the northern part of Munich have become fertile fields through fertilization with sewage sludge. In tree nurseries the plants have grown faster--through sewage sludge. The corn and barley yields on the municipal farms have increased--through sewage sludge. For decades, hundreds of thousands of tons of sewage sludge have been extracted from the municipal sewage treatment plants at Munich's waste dumps at Grosslappen. Until now.

Of course it was proven long ago that the sludge which is acquired through the treatment process of the sewage contains deadly poisons, in particular zinc, lead, and above all, the heavy metal cadmium.

Cadmium is a by-product, occuring primarily in the smelting of zinc and iron ores, and in the burning of coal. It is mainly utilized as electric material, and as yellow and red pigment in the manufacture of dyes. Once cadmium has been released, it is difficult to recombine it again chemically. Even if it were possible to burn the large quantities of sewage sludge, cadmium would always return. Through the smoke stacks--as in the case of many metallurgical plants in the Ruhr area--it enters the air, and as a result of precipitation it is returned to the soil and to the crops, thereby reentering the food chain. If the flue gas is washed before it is released, the cadmium remains in the water, reaches the sewage system, enters the sewage treatment plants and again ends up in the sewage sludge.

Environmental pollution through cadmium first resulted in catastrophic consequences in Japan in the 1950's. Thousands fell victim to a disease for which there was then no name, and which has in the meantime been called the "Itai-Itai-Disease" after the victims' cry of pain. The bone tissue becomes brittle, and the kidneys cease to function. So far no cure has been found.

As early as 1976, the Bavarian Land Institute for Agriculture discovered a considerable increase in the cadmium content of those plants which had been grown on fields fertilized with sewage sludge. There were, however, no visible consequences, and the sludge continued to be deposited on the fields. Munich's Construction Department finally formed a "Cadmium" Study Group in 1978. Result of the study: Each kilo of dry sludge used as fertilizer contains 150 milligrams of cadmium. A 1976 pamphlet of the Association for Sewage Technology, Bavarian Branch, however, designates 35 milligrams as the highest permissible level. The cadmium content of the soil in the fields fertilized with sludge is between 15 and 35 milligrams per kilo of soil. The draft of a Bonn regulation however provides that "soil thus fertilized" may not contain more than 3 milligrams of cadmium per kilo of soil. Despite this, the quantity of sewage sludge in Munich will probably increase to 65,000 tons annually by 1985 (in 1978 it was 40,000 tons).

The ground water is also endangered. The minutes of Munich's "Cadmium Study Group includes the tersely cynical observation: "Cadmium also enters the ground water. However, the ground water to the north of the waste dump at Grosslappen has already been contaminated to such an extent by the seepage from the waste dump, that the use of sewage sludge cannot worsen the situation."

Baden-Wuerttemberg also has pressing cadmium problems. Experts estimate that roughly 2 million cubic meters of sludge, of which a considerable portion is contaminated with cadmium, have been deposited in the Neckar River between the harbor of Plochingen and the locks of Gundelsheim, and from 140,000 to 180,000 cubic meters are added annually. Roughly 60,000 cubic meters are dredged out each year and, in part, distributed onto fields.

Last fall a citizens' initiative sounded the alarm. Cadmium concentrations of up to 73.5 milligrams per kilo of soil were measured on a total of 45 hectares of farm land near Lauffen and Horkheim on the Neckar.

Consequently the Land government in Stuttgart recommended an indefinite suspension of cultivation on 30 hectares and offered the affected farmers a compensation of 2,100 marks per hectare. For the remaining 15 hectares, it issued a recommendation for limited cultivation. Here only nonfood plants and produce are to be grown, which are not consumed in a raw state either by people or animals.

In the meantime a new problem has arisen. The flood disaster in May of last year has left behind on many fields a 10-cm-thick layer of mud, especially in the area of Heibron. Here too cadmium has been found in the meantime--in places, 17 milligrams per kilo of soil. The minister for the environment in Stuttgart has directed that no sewage sludge may any longer be released without examination.

Hedelberg's sediment researcher, German Mueller, has now applied for funds from the German Research Association in Bonn in order to be able to examine every sewage treatment plant in the FRG. According to Mueller, the sewage sludge contains, in addition to cadmium and other poisonous heavy metals, carcinogenic substances, above all Benzpyren, a hydrocarbon which is released when coal is burned.



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END